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#### **ABSTRACT**

A study was conducted to determine the educational value and effectiveness of a one-credit library research course offered since 1981 at Slippery Rock University (SRU) in Pennsylvania. The course is based on a workbook adapted from the one used at Pennsylvania State University and students are required to complete workbook exercises and to compile a bibliography on 1 of a possible 25 topics. Based on t-test analysis of pretest and posttest results from an experimental group and a control group and on results of the administration of a Semantic Differential scale, it was found that there was a significant, positive gain in student knowledge of the library and student attitudes toward the library as a result of the course. One puzzling finding was that the pretest scores of the experimental group were much lower than those of the control group. This paper describes the study methodology and results, and also presents information on the history of library instruction at SRU and the objectives and design of the SRU library research course. Copies of the Semantic Differential form and the pre/posttest used to evaluate library attitudes and knowledge respectively are provided in appendices. (Author/ESR)



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A ONE CREDIT, SELF-PACED LIBRARY RESEARCH COURSE AND ITS IMPACT ON THE KNOWLEDGE AND ATTITUDE BASE OF SLIPPERY ROCK UNIVERSITY STUDENTS

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## AUTHOR ABSTRACT (To Accompany Document Submitted to ERIC/IR)

Author: Richard J. Wood, Ph. D.

A One Credit, Self-Paced Library Research Course And Its

Title: Impact on the Knowledge and Attitude Base of Slippery

Rock University Students.

Abstract (up to 200 words): This research study examines the impact of a one-credit library research course based on a workbook and bibliography assignment on gain in knowledge and attitude toward the library. The history and design of the course is described in detail.

Based on a t-test of significant differences between mean scores of Slippery Rock University students in the experimental group and control group, there was evidence to support the hypothesis that there is a significant, positive gain in knowledge of the library as measured by a test of library knowledge. The hypothesis that there is a significant and positive gain in attitude toward the library, as measured by the administration of a Semantic Differential scale to the students in both groups, is accepted. One puzzling result of the research was that the pretest scores of the students in the experimental group were lower than those of control group subjects. Several explanations are presented and an independent samples t-test using pooled variance estimates showed significant differences for pretests and posttests.

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Introduction. This research study shows the educational value and effectiveness of a one-credit, library research course offered at Slippery Rock University (SRU). While formal library instruction programs are often questioned by some faculty and administrators in terms of their educational value, need, time-consuming nature and cost, the course offered by the library faculty at Slippery Rock University has gained the broad support of the faculty and administration.

This study was undertaken, in part, to provide evidence and support for library instruction at the post-secondary level. Academicians should realize that such instruction not only improves the quality of higher education but also provides an essential instructional program for the students who enter college with little cr no library knowledge. It is on the firm basis of solid research, perhaps, that librarians will be able to "sell" faculty and administrators on the value of library skills instruction.

History of the course. Slippery Rock University of Pennsylvania is a small liberal arts institution of public higher education in Western Pennsylvania, fifty miles north of Pittsburgh. There is a full-time enrollment of over five thousand students. There are over three hundred and fifty faculty members, including ten librarians who have full faculty



status and rank. The university library (Bailey Library) houses over 400,000 volumes, 80,000 audio-visual items, 60,000 bound periodicals, 1,300 periodical subscriptions, 700,000 units of micromedia, and 100,000 government documents.

Before 1978, the library faculty at SRU primarily offered walking tours for undergraduate students. From 1978 to 1981, one-hour sessions were offered on a sign-up basis. No more than twelve students could participate at a time in these one-hour sessions so that each student could have hands-on experience with copies of the <u>Library of Congress Subject Headings</u> and <u>Education Index</u>. These two resources were included in order to explain to students how books and periodical articles could be located. A short, twenty minute walking tour was also included as part of the hour. In some semesters, the library faculty provided as many as sixty sessions for six hundred students. Most of the students who signed-up for the tours were freshmen and sophomores who were encouraged or required to participate by the English or Communication Department faculty members.

Individualized classes were, and continue to be, offered by the library faculty upon request, especially at the graduate level. Special classes have been taught on the use of specific types of resources and/or around particular broad subject areas. There is not always time during special library classes for complete tours of the entire facility and all of it resources.

Tours and one-hour classes did not seem to improve students'
library skills, ability to locate research tools, or attitude toward the
library. The "one hour" classes were often fifty minute periods. During
this time, it was possible to teach or give tours for only about forty or



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forty-five minutes. The tours merely pointed-out where periodicals, audiovisual material, government documents, micromedia and the general collections of books were located in the building. A few words were said about how to borrow material, identification requirements, faculty reserves, etc.

Little in-depth instruction could be provided. As most students did not yet have specific library research assignments during the first several weeks of the semester when most tours were given, students were often noisy and inattentive. There seemed to be little or no carryover to the students' courses and to subsequent library use because the same students would ask questions that related to tour information.

The library faculty believed that undergraduate students needed more than one tour or one class. Informal surveys of students in these tours and classes revealed that few students had any formal library skills instruction at the primary or secondary school levels. Because of the differences in size, arrangement, classification, and depth of collections between school and academic libraries, even students that had prior school level instruction needed some instruction at the college level in order to make a successful transition. "Hands-on" experience with the card catalog, indexes, and reference books was needed to enable students to better learn how to use such resources. A one-credit course which included assignments was proposed to provide enough incentive for students.

The lecture method of instruction, further, did not seem appropriate for a skills oriented course. Students should, the library faculty believed, learn on their own by answering questions and completing assignments dealing with the various types of library tools and resources. The library literature pointed to the workbook as a solution. As David Allen states:



As there are not enough librarians at most colleges and universities to teach incoming students these skills, basic library literacy can usually best be taught through a workbook. To be effective, the workbook should be used in a course where the student will immediately apply the skills they have learned in writing a paper.

The library faculty agreed to the workbook concept and decided to adapt the one used at Pennsylvania State University. That workbook was based on Miriam Dudley's original book. The primary credit at SRU for adapting the workbook and for pushing the course through the curriculum process goes to Leah Brown, a reference librarian.

A one-credit general studies course, titled Library Research, was offered for the first time in September, 1981. Since then, ten sections of twenty-five to thirty students have been offered each semester. Any student may elect this self-paced course, although the librarians and academic advisors encourage freshmen to enroll. About four hundred students completed the course during the 1981-1982 academic year. All sections are usually filled prior to the beginning of the semester.

The demand for the course has exceeded the library's ability to staff more sections. The course is completed prior to mid-term examinations. During this six to eight week period, all librarians are involved in the course in some way: teaching, correcting assignments, grading, and helping with the workshop (hands-on) sessions. Reference desk work is very intense during this period as well because this desk is the point at which students in the class must come for help.

Various assumptions or learning theories were made in designing the course. These included the following:



a. Library skills are learned more effectively and naturally when students must complete workbook exercises and assignments.

b. Skills are learned better by doing, as opposed to being lectured to by an instructor.

- c. An instructor's main purpose in a skills course is to guide the students toward the course objectives.
- d. Questions and assignments should be completed only by actual use of reference materials, including indexes and the card catalog.
- e. Students need incentives such as grades for the assignments and for the course.
- f. Students should be permitted to make corrections on their workbook exercises to a limited extent. This factor is important in a skills course.
- g. While the course is self-paced, deadlines are necessary. Students may complete the exercises (about forty questions) anytime within a ten to fourteen day period.
- h. A bibliography assignment for which students must locate several books and several periodical articles on an assigned topic and cite the material, using an accepted style manual should be an important part of the program.
- i. The bibliography assignment will test the students' abilities to locate books using the card catalog and to locate periodical articles using indexes and abstracts. Their ability to do so should largely determine the students' grades. Students should not make corrections on their bibliography assignments in order to discriminate better between A, B, C or D grades.
- j. The workbook exercises should be unique for each student in the section to discourage copying and enhance individualized learning.
  - k. Penalties for copying should be severe.
- 1. The course should be aimed at incoming freshmen who have had little or no library skills instruction at the elementary or secondary school levels. Students who have had such prior instruction may find the course easy and the material repetitive; however, the differences in size, arrangement, types, and depth of collections are sufficient enough that all students will find the course worthwhile.

The course stresses basic competencies that all students at the college level should have in order to complete term papers, write speeches, or find research material for coursework. In order to do so successfully, students must have the following competencies:

- a. to use standard lists of subject headings,
- b. to identify and use appropriate reference materials,
- c. to identify and use appropriate periodical indexes and abstracts,
- d. to locate books, periodicals and audio-visual material on tonics of their choice in Bailey Library,
  - e. to use microfilm and microfiche equipment, and
  - f. to compile a bibliography using approved style manuals.



The bibliography assignment accomplishes these objectives by requiring students to locate three books and three periodicals on an "assigned" topic. Students may choose one out of about twenty-five topics. Only one student in each section should have the same topic. Students must first define the topic using a dictionary. Second, they must locate a specialized encyclopedia that includes a reference to the term. Third, students must list two subject headings from the <u>Library of Congress Subject Headings</u> book. Fourth, using encyclopedias, indexes, or other resources, the students must narrow the topic so that a meaningful term paper could be written. (Students do not have to write an actual paper—only the bibliography.)

Using the card catalog and the <u>Library of Congress Subject Headings</u> books, students must locate three books that deal with the narrowed topic. Using periodical indexes, students must also find three articles. They may use the <u>Reader's Guide to Periodical Literature</u> only one time. These articles must be substantive and the books must have at least a few pages dealing directly with the topic. The librarians check on the appropriateness of the students' selections by requiring the students to photocopy the title pages of the books and the first page of the periodical articles. Using a style manual, the students must type, or print, a six-item bibliography from the information they recorded for each book and article. This bibliography assignment is worth about half of students' grades. The grade is determined on the following basis:

- a. definition of the topic,
- b. selection of a specialized encyclopedia,
- c. selection of Library of Congress subject headings,
- d. how well the topic is narrowed (by country, time period, subtopic, etc.)



- e. choice of periodical indexes (only one from Reader's Guide to Periodical Literature),
  - f. ability to accurately follow the selected style manual,
  - g. neatness, legibility, etc., and,
  - h. pertinence of books and articles to the narrowed topic.

Relevancy of the selected books and articles is the most important criteria. Photocopies are examined, and read when necessary, to determine if they are relevant. No credit is given for non-relevant selections—no matter how neat the bibliographic citation. Points are deducted if the assignment is not turned in by the proper date. It takes about two weeks for the library faculty to grade the bibliography assignments. After all the papers have been graded, students may examine their corrected bibliography but they may not keep them. Students may not correct mistakes made in the bibliography assignment.

This is not true for the exercise assignments. The exercise books are based on the workbook which is purchased at the bookstore. The workbook is edited each semester and changed so that students may not use old workbooks. The cost of the workbook includes the exercises which are distributed during the first class. Each student in the class has a different version of the exercise questions to curtail copying. The tour section of the workbooks, however, are the same for each student. Students may keep their workbooks but the library retains the exercise booklets. The bibliographies are also retained to deter students from passing-on completed assignments. After completing the exercises, students may return to the reference desk after several days and see if they made mistakes. If so, the students may make the necessary corrections one time.



Scope and Limitations of the Study. This study was limited in scope to one teaching method, namely the self-paced one-credit course described above. Data was obtained from classes and a control group selected on a random basis. An attempt was made to give identical as possible instructions, examples, etc. No control, however, could be exercised over how much help students obtained from friends, librarians, or others. Another study concludes that there are many non-instructional variables operating including "intelligence, study habits, practical experience in the library related to other classes during the instruction period, attitude toward the course, etc. Any one variable or combination of variables may account in part for gains in scores." It was assumed in this study that unless a student requested help, all students received the same amount of instructions.

The results of the study were based on data obtained from two groups: (1) the experimental group consisting of undergraduates, mostly freshmen, who enrolled in the course and, (2) the control group consisting of randomly selected students from the freshmen class who were not enrolled in the course. All students were registered for classes during the Fall 1981-82 semester. The responses of the subjects who did not complete both a pretest and a posttest were eliminated from the study. This left forty subjects in the control group (out of fifty) and forty-six in the experimental group (out of fifty-one). All responses were kept anonymous, using only control numbers for the purpose of recording and follow-up.

Methodology. The purpose of the research is to determine if the following null hypotheses may be rejected:



- 1. There is no significant increase in knowledge of the library as determined by average gain in performance in a library skills test as a result of a stimulus that teaches library skills.
- 2. There is no significant gain in attitude toward the library as a result of a stimulus that teaches library skills.

Knowledge of the library is the dependent variable. Mean gain in performance on the library skills inventory administered before and after the stimulus is the independent variable. The stimulus consists of the course and workbook exercises and bibliography assignment described in a previous section. Attitude score on a Semantic Differential instrument is the dependent variable with respect to hypothesis two.

Experimental group subjects consisted of students in two sections of Library Research taught by two of the library faculty, including the author. The control group subjects were randomly selected, using a SRU Computer Center service. All control group students were from the freshman class. These students received their tests through the mail. Return envelopes were provided. The test was locally developed but based on other standardized tests of library knowledge and evaluated prior to the study. The same testing instrument was used for both the pretest and the posttest. (See the Appendices for a copy.)

Results. Analysis of the data was made with the aid of the computerized Statistical Package for the Social Sciences (SPSS 10). A t-test for significant differences between means was made to determine if there were significant differences between the control and experimental groups means for the variables. An .05 level of significance (two tail probability) was used.

The first hypothesis tested is whether the library research course (stimulus) results in a significant, positive gain in knowledge of the



library. The results are as follows:

TABLE 1

A. Control Group

	Mean	Standard Deviation	T Value	Significant?
Pretest	12.425	2.716	1 55	NO
Posttest	12.050	2.613	1.55	
	В.	Experimental Group		
Pretest	9.9565	2.590		
Posttest	13.6957	2.365	-9.35	YES

The study shows that there is no significant difference in scores for students not enrolled in the course (the control group) when pretest scores are compared with posttest scores. The control group students did no better or worse from the pretest to the posttest.

The scores of students in the control group did not increase, presumably, because their knowledge of basic reference tools did not increase significantly. This finding was expected because, as a rule, freshmen at SRU do not have many assignments that require library research. English assignments and speech assignments in Communication courses, for example, are short in length as a rule. This is especially true, it seems, in the first half of the semester. Few faculty teach library research skills as part of their courses.

With respect to the experimental group (see Table 1 above), the study shows that there is a statistically significant difference between the pretest and posttest scores on the test of library knowledge. The null hypothesis (see #1, page 9) is rejected. Students taking the



Library Research course did learn significantly more about the library and resources such as dictionaries, almanacs, atlases, the card catalog, and periodical indexes. The pretest mean scores of experimental group subjects is 9.9565 and posttest scores is 13.6957. As a result of the course, then, students increased their scores by about 3.7 questions on average.

One puzzling result of the research was that the pretest scores of the control and experimental groups differed widely. The number of questions answered correctly on the pretest by both groups differed by about 2.5 questions. There are several possible explanations.

One explanation is that tests were <u>mailed</u> to control group subjects while the experimental group subjects were <u>monitored</u> closely in the class-room. Control group subjects were able to complete the test when it was convenient for them to do so. They were not under any pressure to complete the questions. Control group subjects may have consulted with friends or other persons. They may have come to the library to receive help or look-up answers. This is not likely in most cases, but two students in the control group had very high scores. The higher scores, of course, raised the average score of the control group students on the pretest.

Experimental group subjects, secondly, were in a controlled situation. Although experimental group subjects were told that the test results would not affect their grade and that all results were anonymous, there was some pressure and uncomfortableness. The instructors monitored the students in the classroom where the tests were administered. Experimental group students, also, were faced with early and late classes prior to the library research class. They did not have the advantage, that is, of answering the questions at their own convenience. Nor did these students



have an opportunity for consulting reference works or friends.

Control group students, third, may not have enrolled in the library research class because they felt they had adequate library skills. That is, they may have felt that they already understood how to use the library sufficiently. If this were true, it would explain why control group subjects had higher pretest scores.

It is difficult to fully accept any one of these explanations. They may have all operated to some extent.

For these reasons, an independent samples t-test using pooled variance estimates was made. The results were as follows:

TABLE 2

A. Pooled variance for pretest

Group	Mean	T-Value	Significant			
Control	12.425	. 27	<b>YE</b> S			
Experimental	9.956	4.31				
	B. Poole	B. Pooled variance for posttest				
Control	12.050	0.07	WD6			
Experimental	13.696	-3.07	YES			

The results show that the post measurement scores for the experimental group are significantly better at the .05 level of confidence. While the pretest scores did differ widely between control and experimental groups, the posttest scores did also. The explanations presented above, therefore, are plausible. This is because the posttest score for the control group subjects (12.050) was significantly different from the experimental subjects' posttest score (13.696).



The study does demonstrate the need for additional research.

Do students who enroll in an elective course such as this one <u>need</u> the course more than students who do not enroll? All subjects should either be sent a test through the mail, or be tested in a controlled situation such as the classroom. Another research study is being planned to explore this question.

Attitude and the course. The study also explored the effect of the course on the subjects' attitude toward the library using a semantic differential form developed previously. (See the appendices at end of paper.) The null hypothesis states that:

There is no significant gain in attitude score toward the library as a result of a stimulus (course) that teaches library skills.

It was expected that the course would have a positive effect on attitude. This was demonstrated in the author's doctoral dissertation. The results of the present study prove that the course did make a statistically significant, positive difference in mean attitude scores from the pretest (50.1489) to the posttest (64.000). The relevant data is presented in summary form in Table 3A and 3B.

TABLE 3A

Control Group Attitude Scores

	Mean	Standard Deviation	T Value	Significant?
Pretest	57.7317	11.517	3.04	NO
Posttist	54.9512	12.258	0.04	
	Experimental Gr	3B oup Attitude	Scores	
Pretest	50.1489	11.521	-8.61	YES
Posttest	64.000	6.481	-0.01	165



Mailing the questionnaires may also explain the differences in attitude scores between the control and experimental group subjects. The pretest scores for the control group students was 57.7317, but 50.1489 for the experimental group subjects. The posttest scores, however, supported the hypothesis that the library research course does make a significant, positive change in attitude toward the library. The mean posttest score for the experimental group subjects was 64.000 compared to 54.9512 for the control group subjects. The reader should note, however, that the posttest score average for the control group subjects was lower than the pretest score (a mean of 54.9512 compared to 57.7317). This was not significant though. The difference in mean scores for the experimental group subjects from pretest to posttest (50.1489 and 64.000) is significant at the .05 level. Thus, a course such as the one credit Library Research course described in this paper can positively affect the attitude of students toward the library. A similar result occurred in the author's doctoral study. The mode of instruction in that study was a computerassisted-learning program on how to use the card catalog.



Conclusion and Summary. The one credit self-paced library research course at Slippery Rock University results in a positive, significant increase in knowledge of library skills and attitude toward the library. The author feels that the course is effective due to its design. Students are motivated to earn one credit. To some degree, they may complete the course at their leisure when the library is open. The course is also completed by midterm. What they learn in the course should more importantly, enable them to do well in finding material for term papers or speeches. Students should learn what a style manual is and how to use it when typing the bibliography of a term paper.

Based on t-test for significant differences between means, evidence was found to support the hypothesis that a significant, positive increase in library knowledge resulted from the stimulus. The study shows that the one-credit course designed around a workbook/exercise module and bibliography assignment does increase knowledge of the library. Based on a t-test, further evidence was found to support the hypothesis that there is a significant, positive gain in attitude as a result of the course.

The two null hypotheses were, therefore, rejected. We accept the hypothesis that there is a significant increase in knowledge as determined by average gain in performance on a library skills test as a result of the course that teaches library skills. With respect to attitude, we accept the hypothesis that there is a significant gain in attitude toward the library as a result of the course. There is evidence, then, that library skill courses based on workbooks do help students to learn essential library skills and, at the same time, result in a positive gain in attitude toward the library.



Allen, David. "Students Need Help in Learning How to Use Use the Library," <u>Chronicle of Higher Education</u>, 9 June 1982, p.56.

<sup>2</sup>Renford, Beverly L. <u>Library Resources: A Self-Paced Workbook</u>. (Pennsylvania State University, 1978).

<sup>3</sup>"Self-Paced Library Skills Program at UCLA's College Library," In Lubans, John ed., <u>Educating the Library User</u>. (New York: Bowker, 1974), pp. 330-335.

Sugrañes, Maria R. and James A. Neal, "Evaluation of a Self-Paced Bibliographic Instruction Course," <u>College and Research</u> Libraries, November 1983, p. 455.

The book by Osgood, C. E., George Suci, and Percy H. Tannen-baum, The Measurement of Meaning. (Urbana, Illinois: University of Illinois Press, 1977) is a very significant and comprehensive work about measuring attitude. These authors developed the Semantic Differential instrument.

<sup>6</sup>Nie, Norman, and others, SPSS: Statistical Package For the Social Sciences, 2d Edition. (New York: McGraw Hill, 1975).

Wood, Richard J. "The Effect of a Computer-Assisted-Learning Library Skills Stimulus on Attitude Toward and Use of a College Library," Diss. University of Pittsburgh 1979.

8 ibid. pp. 46-7.



APPENDICES



### APPENDIX 1: SEMANTIC DIFFERENTIAL FORM

Name: \_\_\_\_\_

Social Security Number: \_\_\_\_\_

						Date:			
						Section	:		
EVALUATION OF	THE	LIBRARY							
									There is a line
									re to put an X ibrary. Be sure
to check only				*	_			_	-
									et of adjectives
may not seem	to ma	ike se <b>n</b> s	e. Eve	n so, g	ive you	r best	answer.		
GOOD	/ _	/	/	/	/	/	/	/	BAD
PLEASANT	/_	/	/	/	/	/	/ _	/	UNPLEASANT
WORTHLESS	/_	/	/	/	/	/	/	/	VALUABIÆ
CLEAR	/_	/	/	/	_/_	/	/	/	HAZY
UNTIMELY	/_	/	/	/	/ _	/	/	/	TIMELY
PLEASURABLE	/	/	/	/	/	/ _	/ _	/	PAINFUL
MEANINGLESS	/ _	/	/	/	/	/	/ _	/	MEANINGFUL
IMPORTANT	/	/	/	/ _	/	/	/	/	UNIMPORTANT
PROGRESSIVE	/	/ _	/	/	/ _	/ _	/ _	/	REGRESSIVE
NEGATIVE	/_	/	/	/	/	/	/	/	POSITIVE
FOOLISH	/	/ _	/	/	/	/	/	/	WISE
CHECK ONE:									
[] Iam	enrol	led in	Librar <b>y</b>	Resear	ch this	semest	er.		
[] I hav	re had	l Librar	y Resea:	rch the	previo	us seme	ster.		
[] I hav	re nev	er had	Library	Resear	ch.				



APPENDIX 2: PRE/POST TEST

(retyped)

LIBRARY QUIZ

Do not make any marks on these question sheets. Mark your answers on the answer sheet provided. This quiz is being used for a survey. Your score will not affect your grade.

REFER TO THE PICTURE OF THE CATALOG CARD FOR QUESTIONS 1 - 5

### ELECTRONIC CALCULATING MACHINES

QA 76 Von Neumann, John, 1903-1957.

V6 The computer and the brain. New Haven, Yale University Press, 1958.

82 p. 21 cm. (Mrs. Hepsa Ely Silliman memorial lectures)

Electronic calculating-machines. 2.
 Cybernetics. 3. Nervous System. I. Title.

Q276.V6

510.78

- 1. The author of this book is
  - A. John Von Neumann
  - B. Hepsa Ely Silliman
  - C. Yale University Press
- 2. The title is
  - A. Electronic calculating-machines
  - B. Nervous system
  - C. The computer and the brain
  - D. Mrs. Hepsa Ely Silliman memorial lectures
- 3. This book can be found in the card catalog under the following subjects:
  - A. Electronic calculating-machines, cybernetics, nervous system
  - B. Electronic calculating-machines, computer, brain
  - C. Silliman memorial lectures, computers
  - D. Cybernetics, nervous system, computers
- 4. The book was published in
  - A. 1903
  - B. 1957
  - c. 1958
- 5. You will find this book in Bailey Library on the
  - A. First floor
  - B. Second floor
  - C. Third floor



- 6. A book with the call number Ref. AE 5 D73 is found on the
  - A. First floor
  - B. Second floor
  - C. Third floor

REFER TO THE PICTURE OF BOOKS ON THE SHELF FOR QUESTIONS 7 & 8

(not shown here)

- 7. The correct order for these books to be shelved in Bailey Library is
  - A. 1,2,3,4
  - B. 4,3,2,1
  - C. 4,2,1,3
  - D. 4,1,2,3
- 8. You will find these books in the library on the
  - A. First floor
  - B. Second floor
  - C. Third floor

REFER TO THE PICTURE OF THE PAGE FROM THE LIBRARY OF CONGRESS SUBJECT HEADINGS FOR QUESTIONS 9 - 11

- In Bailey Library, we use the following subject headings in the card catalog
  - A. Leather carving (1); leather garments (5) leave of absence (13)
  - B. Leather embroidery (3); leather dyeing (2); clothing, leather (6)
  - C. Leather goods (8); leather workers (9); leathercraft (12)
- 10. We do NOT use the following subject headings
  - A. Leatherback turtle (10); luth (11); leave of absence (13)
  - B. clothing, leather (6); garments, leather (7); Leathercraft (12)
  - D. Leather-flower (4); leather workers (9)
- 11. We use subject headings related to the main headings. These are designated
  - A. x
  - B. xx
  - C. xx and sa

(Questions 12 - 18 are based on the Social Sciences Index and ask the student to identify the subject heading, title of the article, date of the article, etc.